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ABSTRACT

This curriculum package on critical thinking and problem solving is a product of the Workforce 2000 Partnership, which combined the resources of four educational partners and four industrial partners in Alabama, Georgia, and South Carolina to provide education and training in communication, computation, and critical thinking to employees in the apparel, carpet, and textile industries. After an overview of the Workforce 2000 Partnership, the curriculum package's contents are described. Presented next is a curriculum guide for a course in critical thinking and problem solving for new employees. Included in the curriculum guide are the following elements: module title; author; job title; general instructional objective; overall time; and specific instructional objectives, list of required resources and materials, and suggested learning activities and evaluation activities. Next, a lesson plan is provided that contains detailed instructions for conducting the guided practice, applied practice, and closure activities. The activities provided are designed to help learners develop critical thinking and effective problem-solving strategies and interpret task-related communications. Concluding the document are handouts, transparencies, tests and a sample individual education plan. (MN)

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ED 424 464

Patterns for Success: Critical Thinking and Problem Solving (P3)

EDUCATION PARTNERS	INDUSTRY PARTNERS
Enterprise State Junior College	CMI Industries, Inc.
MacArthur State Technical College	Opp & Micolas Mills
Southeast Alabama Adult Network	Pridecraft Enterprises
Laurens County Literacy Council	Shaw Industries

The Workforce 2000 Partnership combines the resources of educational and industrial partners to provide education and training in communication, computation and critical thinking skill to employees in the apparel, carpet and textile industries. The project is funded by a US Department of Education National Workplace Literacy Program grant awarded over three years to Enterprise State Junior College in the amount of $2,243,470 (70%) with committed private sector matching funds of $961,487 (30%), bringing the total program resources to $3,204,957. The activities of the Partnership do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government. Participation by the education or industrial partners in the project should also not be construed as endorsement by the Government of any partners' products.

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TABLE OF CONTENTS

I. Introduction i

II. Curriculum Guide 1

III. Lesson Plan 5

IV Handouts, Transparencies, Tests. 7

V IEP. 27

Module: Critical Thinking and Problem Solving **Author**: Christina Hall
Job Title: New Hires

General Instructional Objective: Critical Thinking and Problem Solving
Overall Time: 2 hrs. 15 min.

Specific Instructional Objective	Time	Learning Activities	Resources/Materials	Evaluation (Process/Status)
VI. 200 Identify effective problem solving strategies.	5 min	1.1 Introduction Introduce the importance of turning problems into a "Win-Win" situation.		Student Feedback
(Motivation)	5 min	1.2 Motivational Activity This is an exercise to help students get a conflict situation to the forefront of each of their minds.	Binder paper Pen or Pencil.	Selection of a Conflict
V. 300 V. 700 V. 800	10 min	1.3 Instructional Activity • Define Conflict and Problem Solving. • Discuss the Steps to a "Win-Win" Solution.	"Problems" - Handout "Steps to a Win-Win Solution" - Handout	Student response to lesson
	30 min	1.4 Applied Practice Styrofoam Cup Activity	Styrofoam Cups	Generated List

Specific Instructional Objective	Time	Learning Activities	Resources/Materials	Evaluation (Process/Status)
VII. 400 Demonstrate ability to solve interpersonal conflicts	10 min	1.5 Applied Practice - Steps to a "Win-Win" Solution	Conflict/Problem from Motivational Activity (1.2)	Student Response to lesson.
	5 min	1.6 Instructional Activity • Teach students the Steps to achieve a manageable "win-win" conflict solution. • The steps focus on the behavior you should avoid and do.	Note paper "Steps to a Manageable "Win-Win" Conflict Solution - Handout or Transparency Overhead Projector	Students responses
	20 min	1.7 Applied Practice Stuck Truck Activity	"Stuck Truck" - Handout	Students responses to activity and solution to activity
V. 300 Interpret task related communications such as following, clarifying, giving or providing feedback to oral instructions. VII. 400 V. 900 Initiate action in response to request from the supervisor, instructor, or customer.	10 min	1.8 Instructional Activity Teach the five aspects to remember when communicating with a supervisor	Note paper	Students responses to steps

Specific Instructional Objective	Time	Learning Activities	Resources/Materials	Evaluation (Process/Status)
V. 300 V. 700 V. 800 V. 900 VII. 400	25 min	1.9 Instructional Activity • Conduct Role Playing Activity with students. • Instruct students to practice proper steps to communicate with a supervisor and the proper steps to a "Win-Win" solution. • Discuss the techniques students used, and have students suggest where they might have improved.	Handout - "Role Play Scenarios" Scissors Note paper	Students response to activity Observation of students interaction
(Closure)	10 min	1.10 Closure Activity • Review steps to a "Win-Win" Managing a "Win-Win," and aspects to remember when communicating with your supervisor and with students. • Conduct a question and answer session.		Students responses

MATERIALS NEEDED

STUDENT MATERIALS

1. Notepad or binder paper - this is for taking notes
2. Handouts - Steps to a "Win-Win" Solution, Steps to a Manageable "Win-Win," Communicating with Supervisors, Stuck Truck Activity, Problems, Role Play Activity, and Creative Thinking
3. Pencil or Pen

TEACHER MATERIALS

1. Black Board or Markers or Flip chart
2. Handouts - Steps to a "Win-Win"Solution, Steps to a Manageable "Win-Win," Communicating with Supervisors, Stuck Truck Activity, Problems, Role Play Activity, and Creative Thinking
3. Overhead Projector - optional

TEACHER INSTRUCTIONS

This module was written for your teaching use. **Bolded** sentences are written in a conversational manner, such that the sentences may be read directly to the students. Sentences in brackets [ ], contain information that pertains to the instructor. It is recommended that teachers use their initiative in supplementing the information contained in this module. This will result in a more effective class for the students.

OUTLINE

I. Introduction to Conflict and Problem Solving

II. Motivational Activity - Exercise #1 - Write Down a Recent Conflict or Problem

III. Define Conflict and Problem Solving with the Use of Critical Thinking

IV. Steps to "Win-Win" Problem Solutions

V. Exercise #2 - Styrofoam Cup Activity

VI. Exercise #3 - Practice Using Steps to "Win-Win" Solution

VII. Steps to a Manageable "Win-Win" Conflict Solutions - Items to Make us Think

VIII. Exercise #4 - Stuck Truck Activity

IX. Communication With Your Supervisor

X. Five Aspects to Remember When Communicating With Your Supervisor

XI. Exercise #5 - Role Playing

XII. Closure Activity

LESSON PLAN

1.1 Introduction - 5 minutes

[The purpose of this module is to illustrate the importance of "win-win" solutions when dealing with our everyday conflicts or problems. As the module progresses, you will also see a focus on dealing with conflict regarding supervisors and co-workers.]

Unfortunately, conflicts are a part of everyday life; however, they need not always be stressful. Learning proper techniques to resolve conflicts or problems can create "win-win" situations for all individuals involved. The following lesson deals with the understanding of Conflict Resolution, Problem Solving, the use of critical thinking, and the importance to make conflict a "win-win" situation.

When we have a problem we usually think that we are right. We just do not want someone telling us that we are wrong.

[The following exercise is to get a conflict situation to the forefront of the students mind. And then to locate what the actual problem is. Having a recent conflict in front of the students that they can control should help in the understanding. As we teach this module we will take students through many steps to solving a conflict and they can follow these steps with a current conflict that they have interest in.]

1.2 Motivational Activity - 10 minutes

EXERCISE #1 - I Have a Problem

Think of a recent problem you have had and write it down (it can be a current one). After you write the problem down look at it and pick out the central issue. This will help you in focusing on the real problem. Now take that piece of paper and place it in front of you. I want you to constantly pay attention to your problem as we go through the definitions of problem and the various steps in solving your problem through a "Win-Win" situation. If you have a question at anytime please ask.

1.3 Instructional Activity - 30 minutes

The first thing we need to know about conflict is the definition.

[Write definitions on board or overhead]

CONFLICT is defined as a <u>problem</u> or clash amongst two or more things, or to be on the contrary. Conflict can also be defined as a situation in which the demands of one job adversely affect the demands of another.

i.e. Home demand versus work demand

It is important to realize that a Conflict is also a Problem.

When conflicts or problems happen we become stressed, uptight, and/or on edge. This results in behavior that can cause even more conflict.

One way to relieve stress is to be creative and think positively about the situation or problem at hand. We should always keep in mind that if we are creative about conflicts (problems) then our outlook can change.

FOR EXAMPLE: The following definition will show what happens when we look at the definition of "Problem" creatively.

What are Problems?

Predictors - They help mold our future.
Reminders - We are not self-sufficient. We must work together.
Opportunities - They pull us out of our rut and force us to think creatively.
Blessings - They open up doors we usually don't go through.
Lessons - Each new challenge will be out teacher.
Everywhere - No place or person is excluded from them.
Messages - They warn us about a potential disaster.
Solvable - No problem is without a solution.

We can see that Problems or Conflicts do not have to be seen as a negative (bad). If our creativity can change our outlook, then the result will be a more positive behavior.

[It is very important that students understand what a conflict is and why "Win-Win" is important. Discuss with the students the steps to resolve conflict.]

Now that we can define what a conflict (problem) is and understand that it is part of our everyday life, lets look at the different techniques (steps) to help resolve our conflicts. These techniques can create a "Win-Win" situation for all individuals involved.

[Use "Steps to "Win-Win" Solutions" for distribution or as a transparency.]

STEPS TO "WIN-WIN" SOLUTIONS
From: P.E.T., Parent Effectiveness Training, by T. Gorden

1. **Identify and define the conflict or problem**
   - **What is the problem as you see it?**
   - **How does it make you feel?**
   - **It's important to use "I" (descriptive language) and not "you" (evaluative language). Using "I" describes the way you feel. Using "you" is evaluating the person you are talking to.**
   - **Don't accuse those involved.**
   - **Make it clear that you want to find a solution that is acceptable to everyone, and that you do not just want to argue.**

2. **Generate a number of possible solutions.**
   - **It is important to have everyone involved contribute as many solutions as they can think of.**
   - **Do not stop to judge which ones are best in this step, this stifles creativity and can generate bad feelings. Pick the best ideas out later.**
   - **Be creative and use your imagination to think of solutions**

3. **Evaluate the alternative solutions.**
   - **This is the time to talk about which solutions will work and which solutions will not. It's important that everyone is honest about his/her feelings and willingness to accept an idea or solutions.**
   - **If a solution is going to work, everyone has to accept it.**

4. **Decide on the solution.**
   - **Now that you have looked at all the alternatives, pick the one that looks best to everyone.**
   - **It's important to be sure everybody understands the solution and is willing to try it out.**
   - **Your decision does not have to be final, but it should look potentially successful.**

5. **Implement the solution.**
   - **Work out the details of how the solution will operate.**
   - **If you have decided to set up some sort of schedule, now is the time to work it out and make sure everyone understands this schedule.**

[Make sure students understand that they should follow each step and answer all the questions. After reading the above steps insure that the students understand each step and the statements that follow.]

EXERCISE #2 - Styrofoam Cup Activity

[The purpose of this activity is for students to focus in on brainstorming, and to show that by being creative, one can come up with many solutions to a problem.]
[Materials needed: One styrofoam cup per student, chart paper, and markers.]

Directions: 1. Scenario = Each of you have been laid off at your current job and there are no other jobs out there. You decide to start your own business, but you have a problem. The only thing you have is a Styrofoam cup. Therefore, you need to come up with as many "quality" products from a Styrofoam cup.
[Make sure students do this individually]
2. Follow the steps to a "win-win" situation and write as many products you can think of. Do not forget to be creative.
[After about 5 minutes put students into two groups and have them continue finding as many products as possible. Let each group work together for about 8 minutes. The next step is to gather both groups ideas together and write them on the board. After all ideas are on the board, ask if any new idea has triggered another new idea and write it on board.]
??When you worked as a group were you able to think of more product ideas??
We must remember to look at the problem as a positive situation.

[Ask the students to look at their problem or conflict which they wrote down earlier. Have them follow the steps and write down their answers on the same page. They won't necessarily be able to complete all the steps, but make sure they complete steps 1 through 3.]

1.5 **Applied Practice** - 10 minutes
EXERCISE #3
Look at your conflict you wrote down earlier. This exercise is to give you practice using the "Win-Win" steps we learned above. I want you to use your conflict situation to complete steps 1-5. You might not be able to do the last two steps depending on your conflict. After completing these steps you should find how useful and positive a "Win-Win" solution is.

1.6 **Instructional Activity** - 5 minutes
We now know the steps to take to achieve a "win-win" solution. There are also other steps we need to keep in mind as far as managing our behavior.

[Use "Steps to a Manageable "Win-Win" Conflict Solution" handout for distribution to students or use as a transparency.]

STEPS TO A MANAGEABLE "WIN-WIN" CONFLICT SOLUTION:

When you find yourself in a conflict (whether in a group or a two person situation) you need to establish some ground rules that everybody involved can agree on. The following is a possible method you can use, but make sure the others agree with it before you put it to use.

There are four (4) steps involved in a manageable "win-win" solution:

1. **First assess the problem:**
   - **Allow yourself and others time to calm down and to evaluate the problem.**
   - **Gather the information you need to talk about the problem (remember the previous steps)**
   - **Consider the things you are willing and unwilling to compromise on.**
   - **Try to consider what the other person(s) are willing or unwilling to comprise on.**

2. **Acknowledge the situation and that the problem exists.**
   - **Listen to the other person(s) concerns and points of view.**
   - **After listening, repeat what you think they said.**
   - **Have them do the same for you.**

3. **Act on the problem.**
   - **Watch the language and the volume of your voice.**
   - **Watch the nonverbal communication you use.**
   - **Observe the other person(s) verbal and nonverbal communication.**
   - **Try to remain open-minded and flexible.**
   - **Let everyone get a chance to express themselves.**
   - **Don't promise something you don't plan to keep.**
   - **Avoid presenting solution where one side wins while the other loses.**

4. **Remember to always LISTEN and repeat back what the other person has said.**

[(This information was gathered by notes and handouts from Professor Edith LeFebvre, Ph.D.)]

1.7 **Instructional Activity** - 25 minutes
EXERCISE #4 - Stuck Truck Activity
[This exercise deals with group problem-solving. Explain to students that they must agree on a ranking for each of the ten items. Have students use the handout on problem solving to a "Win-Win" solution. Make sure students following every step.]

This is an exercise in group problem-solving. Your group must agree on a ranking for each of the ten items. This agreement is not always easy to reach. Use your handout on "Win-Win" solutions to help your group come to a decision everyone can agree on.
[Distribute Stuck Truck Activity]

1.8 **Instructional Activity** - 10 minutes
[This next section discusses communication with your supervisors and the customer.]

Now we know how our actions should be in dealing with conflict and what steps to take in resolving our conflict to a "win-win" solution for all individuals involved. Let's use this information now in the workplace.

It is important in any job situation for an employee to be able to act upon the request of a supervisor, which are also sometimes the direct requests of the customer.
The following lesson is on communicating with your supervisor. The information will give you a better understanding of your supervisor's position, and how communication can improve everyone's job.

It is important to remember that communication with your supervisors can be perceived as a conflict in certain situations, but of course not all. With this in mind you should remember to follow the steps to a "Win-Win" situation.

- **Communication is not always as easy as it looks. The following scenario can show how our perception can result in conflict.**

  An old folk tale tells the story of a husband and wife who traded jobs for a day. They both have had arguments in the past about how the others job was so much easier. Each one thought they could do the other person's job quicker and better. So, they each planned a day where they would switch jobs in the morning and then have an afternoon of leisure.
  The husband stayed home to do household chores, and his wife went off to the field. Nether did the other's job well. By the end of the day, the house was in total ruin, the dinner was burn, the cow was not milked nor was the field plowed. Totally exhausted after a frustrating day, they shared a cold dinner and agreed that neither job was easy. The next day they returned to their work with much relief.

  ??What was the cause of this couples problem??
  ??Do you think they had a good solution in solving their problem??

- **We see that the couples perception was distorted of what the others job entailed. This can happen in the workplace as well. There are times when we just feel that our supervisors do not understand our job, and we perceive their job as something so easy. Remember that the grass is not always greener on the other side.**

  ??Have any of you ever thought this way before??

- [Communication with a Supervisor]
  We must remember that communicating with our supervisors is important to both the supervisor and the employee. There are five important aspects to remember when communicating with your supervisor:

  1. **You must be able to follow instructions.**
  2. **You need to know how to ask questions.**
  3. **You should report any problems or results of your work**
  4. **You need to accurately record and give messages to your supervisor.**
  5. **You need to discuss your job performance.**

1.9 Instructional Activity - 25 minutes
Exercise #5 - ROLE PLAYING

[Conduct a role playing activity with students. This activity will give practice to the students on how to communicate with their Supervisor. Upon completion of the activity, ask students the questions listed below.]
[Directions: Break students up into teams of two. Give one student on each team a scenario. The student who reads the scenario will take the role of employee. The other student will play the role of supervisor. Upon completion, redistribute the scenarios and let the students switch roles.

Tip - cut out each scenario by itself. This will make it easier to pass them out and redistribute.]

Look back at the steps on communicating with your supervisor and the steps to a "win-win" solution.
Use these steps to help with the following exercise.

DIRECTIONS:
Break up into teams of two. I will give one person on the team a scenario. The team member who reads the scenario will play the role of employee (follow the "win-win" solution steps). The other team member will play the role of supervisor (must use good active listening skills). The team member who is the supervisor can not see the scenario. After completion, I will then have you switch your roles and give you a different scenario.

[Distribute Scenarios]

DISCUSSION QUESTIONS:
1. **When you were in the role of the employee, did you find it easy to avoid accusations?**
2. **Did you use "I feel" statements to express your feelings to your supervisor?**
3. **Did you ask your supervisor for feedback?**
4. **Did you clearly state what you wanted?**
5. **Did you get a commitment from your supervisor by setting a follow-up date? Did you allow a reasonable amount of time?**
6. **Were you willing to compromise to the suggestion of the supervisor? If not, why?**

[If you have extra time here is a suggested activity:
1. Upon completion, have one or two of the teams volunteer to play their scenario in front of the class. Have the class analyze the scenario, pointing out good conflict resolution skills, and make suggestions where skills were lacking.]

1.10 CLOSURE ACTIVITY - 10 minutes

[Review "Steps to a "Win - Win" and conduct a question and answer session to answer any remaining questions students may have regarding problem solving and communicating with supervisors.]

If time permits, have students complete "Creative Thinking" handout.

STEPS TO "WIN-WIN" SOLUTIONS
From: P.E.T., Parent Effectiveness Training, by T. Gorden

1. **Identify and define the conflict**
   - **What is the problem as you see it?**
   - **How does it make you feel?**
   - **It's important to use "I" (descriptive language) and not "you" (evaluative language). Using "I" describes the you feel. Using "you" is evaluating the person you are talking to.**
   - **Don't accuse those involved.**
   - **Make it clear that you want to find a solution that's acceptable to everyone, and that you do not just want to argue.**

2. **Generate a number of possible solutions.**
   - **It's important to have everyone involved contribute as many solutions as they can think of.**
   - **Do not stop to judge which ones are best in this step, this stifles creativity and can generate bad feelings. Pick the best ideas out later.**
   - **Be creative and use your imagination to think of solutions.**

3. **Evaluate the alternative solutions.**
   - **This is the time to talk about which solutions will work and which solutions will not . It's important that everyone is honest about his/her feelings and willingness to except an idea or solutions.**
   - **If a solution is going to work, everyone has to except it.**

4. **Decide on the solution.**
   - **Now that you have looked at all the alternatives, pick the one that looks best to everyone.**
   - **It's important to be sure everybody understands the solution and is willing to try it out.**
   - **Your decision does not have to be final, but it should look potentially successful.**

5. **Implement the solution.**
   - **Work out the details of how the solution will operate.**
   - **If you have decided to set up some sort of schedule, now is the time to work it out and make sure everyone understands this schedule.**

STEPS TO A MANAGEABLE "WIN-WIN" CONFLICT SOLUTION:

When you find yourself in a conflict (whether in a group or a two person situation) you need to establish some ground rules that all that are involved can agree on. The following is a possible method you can use, but make sure the other agree with when you put it to use.

1. **First assess the problem:**
    - **Allow yourself and others time to calm down and to evaluate the problem.**
    - **Gather the information you need to talk about the problem (remember the previous steps)**
    - **Consider the things you are will and unwilling to compromise on.**
    - **Try to consider what the other person(s) are willing or unwilling to comprise on.**

2. **Acknowledge the situation and that the problem exists.**
    - **Listen to the other person(s) concerns and points of view.**
    - **After listening, repeat what you think they said.**
    - **Have them do the same for you.**

3. **Act on the problem.**
    - **Watch the language and the volume of your voice.**
    - **Watch the nonverbal communication you use**
    - **Observe the other person(s) verbal and nonverbal communication**
    - **Try to remain open-minded and flexible.**
    - **Let everyone get a chance to express themselves**
    - **Don't promise something you don't plan to keep**
    - **Avoid presenting solution where one side wins while the other loses.**

4. **Remember to always LISTEN and repeat back what the other person has said.**

COMMUNICATING WITH YOUR SUPERVISOR:

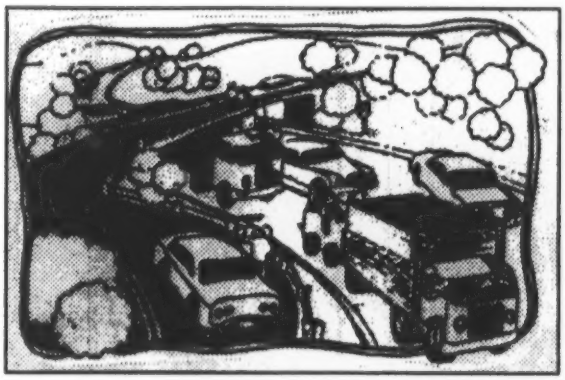
We must remember that communicating with our supervisors is important to both the supervisor and the employee. There are five important aspects to remember when communicating with your supervisor:

1. **You must be able to follow instructions.**
2. **You need to know how to ask questions.**
3. **You should report any problems or results of your work**
4. **You need to accurately record and give messages to your supervisor.**
5. **You need to discuss your job performance.**

WHAT ARE PROBLEMS?

*P*redictors	**They help mold our future.**
*R*eminders	**We are not self-sufficient. We must work together.**
*O*pportunities	**They pull us out of our rut and forces us to think creatively.**
*B*lessings	**They open up doors we usually don't go through.**
*L*essons	**Each new challenge will be our teacher.**
*E*verywhere	**No place or person is excluded from them.**
*M*essages	**They warn us about potential disaster.**
*S*olvable	**No problem is without a solution.**

Situation: The Stuck Truck



Your company has just obtained a one-year contract to deliver six truckloads of hazardous material a month. The first two trucks are pictured above. Four other trucks are about 15 minutes behind on the same road. All trucks are identical although they are loaded differently. This is the first time any of you have driven this busy road. You will make eleven more deliveries this year.

The first truck, pulling the forklift, got through the cement underpass. The second truck got stuck. Comparing the shipping documents, you realize the first truck is carrying 400 containers weighing 50 pounds each. The second is carrying 300 larger containers that weigh only 40 pounds each. There is an open truck service station ahead. It has a fully equipped wrecker for servicing trucks on the highway.

All the trucks must arrive at the destination 20 miles ahead within one hour or your company will have to pay penalties. There is an alternate route behind you, but it is 10 miles longer with equally heavy traffic.

You are a member of the crew driving The Stuck Truck. Turn to the next page and tell how you would deal with the situation using the items provided.

Below are listed ten items that can possibly be used to deal with the situation. Rank order them in terms of their importance to you and your solution. Give a "1" to the most important item; "2" to the next most important, etc.

____ 1. Truck jack and tire tool

____ 2. Fully equipped, highway-class truck wrecker

____ 3. Three pairs of gloves

____ 4. The forklift

____ 5. C.B. radio in your truck (channel 14 only)

____ 6 Metal ballpoint pen (retractable)

____ 7. Metal box with reflectors, flares, and matches

____ 8. Large hammer

____ 9. Trip report folder with $50 petty cash and detailed road map

____ 10. Cargo (on pallets) from first truck

Note: Keep your ranking for later reference.
Do not erase your final answers

Group Problem:

THE STUCK TRUCK

This is an exercise in group problem-solving. Your group must agree on a ranking for each of the ten items. This agreement is not always easy to reach. However, try as a group to make each ranking one with which all members are willing to go along, This is called *consensus decision making.* Use it in solving the problem and making your decisions.

1. Avoid arguing for you own individual judgements. Use logic and also listen to other's logic.
2. View differences of opinion as helpful. Others may have information you don't have.
3. Don't change your mind just to reach agreement. Support only those ideas you are able to agree with, or at least partially agree with.
4. Don't use majority rule, trading or voting to make decisions. Discuss facts or ideas until there is agreement, or at least partial agreement.

Below are listed ten items that can possibly be used by your group to deal with the situation. Rank order them in terms of their importance to you and your solution. Give a "1" to the most important item; "2" to the next most important, etc. Give a separate ranking to all ten items.

Rank Order - Group Decision

_____ 1. Truck jack and tire tool
_____ 2. Fully equipped, highway-class truck wrecker
_____ 3. Three pairs of gloves
_____ 4. The forklift
_____ 5. C.B. radio in your truck (Channel 14 only)
_____ 6. Metal ballpoint pen (retractable)
_____ 7. Metal box with reflectors, flares and matches
_____ 8. Large hammer
_____ 9. Trip report folder with $50 petty cash and detailed road map
_____ 10. Cargo (on pallets) from first truck

Note: Do not erase your answers on page 2.

STUCK TRUCK SCORE SHEET

#	Item	Individual Rank	Expert Rank	Difference	Group Rank	Difference
1	Jack, tire tool					
2	Truck wrecker					
3	3 pairs gloves					
4	Forklift					
5	C.B. radio					
6	Ballpoint pen					
7	Reflectors, flares					
8	Hammer					
9	Road map, $50					
10	Cargo					

Individual Score:		Group Score:	

Group Score:	
Average Individual Score:	
Best Score In Your Group:	

Step 6. Implement the Solution. A good idea can be ruined if you fail to implement it correctly. Here are some guidelines to help you correctly implement ideas.

- **Believe in the idea.** Never implement an idea you don't think will solve a problem. Sometimes, if people believe an idea is successful it is easier to overcome difficulties that would otherwise jeopardize it.

- **Convince others to support the idea.** When a group solves the problem you already have this step implemented. It is extremely important to get the supervisor's support for any idea. A group solution will help convince your supervisor to support a solution. However, if you develop a solution by yourself, you need to convince other people to support your idea.
- **Don't let fear hold you back.** It is normal to be afraid of failure. Worries about losing your job or reputation if an idea fails need to be kept in check. People sometimes wait too long before implementing a solution. Inaction may cause a good idea to fail.
- **Follow through.** A solution shouldn't be immediately rejected because it does not work. It takes time for ideas to work. Continue trying the solution until you know why it isn't working before taking a new approach.

Step 7. Evaluate the Solution. Within a reasonable period of time, evaluate the effectiveness of the solution and decide if it is working. One good way to evaluate a solution is to repeat the analysis step. For example, go back and do another frequency table to find out if customers are happier, or if production or quality is improved, etc.

Creative Thinking

Many organizations realize that they must be innovative to complete with other businesses. To do this employers want workers who think creatively. Creativity means the

ability to think of new ideas. This may mean applying old ideas to new problems or coming up with entirely new ideas. Here are some suggestions to help you think creatively.

- **Don't let the problem limit your thinking.** Our thinking process sometimes limits the way we look at a problem. The following exercise illustrates blocks to creative thinking.
  — **Exercise 1.** Connect all nine dots with four straight lines without lifting your pencil off the paper. Look at the end of the chapter for the solution to this problem.

- **Look at the problem from different viewpoints.** Look at the problem in a variety of ways. Here is a simple way to help you do this. List ridiculous solutions to the problem. Then turn those ideas around and ask how they might make sense. This process is illustrated in the following example.
  Your supervisor has asked you and the other employees how to increase the number of customers who visit the shoe store where you work. Some ideas:
  - ✦ Give shoes away.
  - ✦ Yell at people to come into the store.
  - ✦ Have every style of shoes made.
  - ✦ Pay customers to take shoes.

  Making these ideas workable would give you the following:
  - ✦ Discount shoes as much as possible.
  - ✦ Get people's attention through advertising.
  - ✦ Have a wide variety of styles.
  - ✦ Include a free pair of socks with each purchase.
- **Use a hazy thinking.** Other words for hazy are unclear or vague. Sometimes we're very specific and take things too literally in the problem-solving process. Maybe our thinking should be hazy and unclear. The next exercise illustrates how literal thinking can block creativity.
  ----**Exercise 2.** Look at the letters below. Eliminate five letters to find one familiar word in the English language. After you've tried solving the problem, look at the answer at the end of this chapter. This exercise shows that thinking in such specific ways blinds us to alternative ideas.

F H I E V L E I L C E O T P T T E E R R S

- **Joke about the problem.** Humor is one good way that allows us to see the alternative solutions to a problem. Humor often relies on expectations. You are led to think one way, then surprised after seeing another way to look at a situation. This old riddle is an example. *Question:* What is black and white and read all over? *Answer:* A newspaper. When this joke is spoken "read" is usually interpreted as "red" because black and white lead a person to think about colors. Humor might allow you to view the problem in an entirely different way - an unexpected way.
- **Give yourself time to think.** Take time to think about the problem and solutions. Relax and look at the ideas that you've thought about. Don't allow anything to distract you. Get away from phones, customers, co-workers, radios, televisions, and anything else that could keep you from just thinking about the problem and a solution. Write down your thoughts during this time or better yet, record them on tape so you're not distracted by writing, Then get away from the problem. Do something entertaining. Get together with friends. Relax. Often, this relaxation frees your unconscious to come up with more possible solutions.

  There are other methods for being creative. Some of these ideas were already described in the problem-solving process, such as brainstorming and researching a problem. There are many excellent books on creative thinking. Find one and learn more about this valuable skill.

Summary

Problem solving is an important skill for employees in modern business. Many organizations expect every worker to contribute solutions to problems. You should practice your problem-solving skills whenever you get the chance. These skills will improve as you apply the techniques in this chapter.

Solutions to Creative Exercises

Exercise 1

Most people see that the dots make a square. They then think that you can't make your lines go outside this box. However, the instructions don't place this limit on you. You can't solve the problem unless you go outside the lines.

• • •

Exercise 2

You were to cross out five letters to find one familiar word. Most people will try to follow this instruction by crossing out 5 letters. However, the way to solve the problem is to cross out the words "five letters" like below.

~~F~~ H ~~I~~ E ~~V~~ L E I ~~L~~ C E O ~~F~~ P ~~F~~ T E ~~E~~ ~~E~~ ~~R~~ R S

Scenarios for Role Playing:

1. As a new employee, having only been on the job 5 weeks, you feel you are not making adequate progress towards achieving 100% production. Since you don't get to see your supervisors very often, you have an underlying feeling of abandonment.

2. As an experienced employee, you've been on the job several years. You are good at your job, and consistently produced over 100%. A new employee has been seated behind you and is a constant chatterbox. You don't mind assisting a new employee and answering questions, but the constant chatter is distracting to you, and consequently lowering your production.

3. As a new employee in receiving, one of your duties is to drive the forklifts. You like your job and don't mind driving a forklift, however, you have a terrible fear of heights. You mentioned your fear of heights when you interviewed, which is why you specifically asked to be placed in receiving, not ADC. Recently, your supervisor has asked you to stand on the forklift and perform many tasks which require you to be raised on the forklift to extreme heights.

4. You are an experienced employee and good at your job. You are dependable, and live up to your job responsibilities. You have recently been given a great many new job tasks, which you feel you are handling in an acceptable manner, but you feel you are also barely keeping your head above water. Although you don't mind new duties, you have not been given any additional compensation (a salary increase) for the extra duties. You have an underlying feeling that you are being penalized for being a dependable employee -- that you are taking up the slack for the more unreliable, irresponsible people in your department.

5. You are a relatively new employee, having been on the job for a little over 3 months. Your job depends on information that you must get from the person next to you. The information you receive from your co-workers is consistently filled with errors, which you must take time to correct. You like your co-worker on a personal level, but correcting her errors is eating up your working time. You're not really losing money, because you are doing paperwork, which is not based on production. However, you're concerned with your own job performance, and that your job performance will be affected by taking the additional time to correct someone else's errors. You have an underlying feeling that your job would really not be necessary if your co-worker would pull her weight. So, you are obviously nervous about bringing this to your supervisor -- you don't want to get your co-worker fired, but you don't want your position eliminated either. You must find a tactful way to bring this situation to your supervisor's attention.

6. You are an experienced employee and have been on the job several years. You like your job, and you are well-liked at work and considered a dependable and responsible employee. You know what duties are expected of you, and you perform those duties well; however, you feel recently that although you perform your duties, you have no overall view of your place in the company. You are not sure how your duties contribute to the overall function of the company. You are ambitious, and are uncertain that you have a future with the company. You don't feel like you

will be fired, but you have an underlying feeling that you could be easily replaced if your position is not better defined with the company.

7. You are an experienced employee, having been with the company for several years. You see many changes occurring within the company, and are extremely nervous about changes which may occur on your job. You are afraid you will not be able to adapt to new or modified duties, and are afraid you will not get enough time or training to learn a new job task. There has been mention of your department utilizing more computerized equipment, and you are extremely intimidated by computers. You have an underlying feeling that if or when these changes occur, you will just be replaced by a machine, or replaced by a younger person with computer experience.

WORKFORCE 2000 PARTNERSHIP
Individual Education Plan
Learner's Page

Name of Course: Critical Thinking and Problem Solving
Date of Course: _____

Name : _____
Employer: _____

GOAL	X	INSTRUCTIONAL OBJECTIVES	LEARNING ACTIVITIES	PREVIEW/REVIEW SCORE		EVALUATION COMMENTS
1. Improve skills for current job	X	Identify effective problem solving strategies	1. Motivational Activity 2. Mini-Lecture - a. Define conflict and problem solving b. Discuss the steps to a Win-Win Solution			
2. Improve skills for changing technology/future jobs	X		3. Applied Practice - Styrofoam Cup Activity 4. Applied Practice - Steps to a Win-Win Solution			
3. Improve reading/ writing/math			5. Mini-Lecture - Discuss the steps to a manageable Win-Win conflict solution 6. Applied Practice - Stuck Truck Activity			
4. Improve problem solving/critical thinking	X		7. Mini-Lecture - Discuss the aspects of communicating with a supervisor			
5. Improve speaking/listen-ing						
6. Improve English (for non-native speaker)						

GOAL	X	INSTRUCTIONAL OBJECTIVES	LEARNING ACTIVITIES	PREVIEW/REVIEW SCORE		EVALUATION COMMENTS
7. GED						
8. Other (Specify)						

Employee Signature Date

Instructor Signature

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